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ABSTRACT

Nearly all burley tobacco farmers in the mountains of North Carolina are small or part-time farmers who have limited time for seeking information. Although they desire accurate, user-friendly, timely, and relevant information, their willingness or opportunity to spend time in face-to-face contacts or grower meetings is becoming severely limited. These farmers seek and use information at nontraditional times and locations. A research project sought to determine the feasibility of using selected distance education delivery methods to meet the informational needs of burley growers for controlling three insect pests of burley tobacco. These delivery methods were as follows: a fact sheet, a fact sheet plus an audiocassette, and the extension bulletin, "Scouting Tobacco." Twenty growers of burley were randomly selected from a list of 97 growers with 10 or fewer years of experience obtained from a county office and interviewed personally. The study showed that 17 of the 20 farmers involved in the research preferred the fact sheet and audiocassette combination for gaining the needed insect information. Age, education level, or size of farming operation generally had no influence on the farmer's preferences. Knowledge gained by the farmers increased substantially via this preferred combination of delivery methods. (Contains 13 references.) (KC)

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MEDIA PREFERENCES OF SELECTED NORTH CAROLINA FARMERS

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ABSTRACT

Title: Media Preferences of Selected North Carolina Farmers

Authors: Allen E. Caldwell and John G. Richardson

Nearly all burley farmers in the mountains of North Carolina are small or part-time farmers who have limited time for seeking information. While they desire accurate, user-friendly, timely and applicable information that they may need, their willingness or opportunity to spend time in face-to-face contacts or grower meetings is becoming severely limited. These farmers seek and use information at non-traditional times and locations.

This research project sought to determine the feasibility of selected non face-to-face distance education delivery methods to meet the informational needs of burley growers for controlling three insect pests of burley tobacco. These delivery methods included (1) a fact sheet, (2) a fact sheet plus an audiocassette, and (3) Extension's bulletin/pamphlet AG-400 "Scouting Tobacco".

The major findings of this research demonstrated that seventeen of the twenty farmers involved in this research preferred the fact sheet and audiocassette combination for gaining the needed insect information. Age, education levels, or size of farming operation generally had no influence on the farmer's preferences. Knowledge gained by the farmers increased substantially via this preferred combination of program delivery methods.

Media Preferences of Selected North Carolina Farmers

Allen E. Caldwell and John G. Richardson

The Cooperative Extension System seeks to deliver research based technology and lifelong learning opportunities to the nation's citizens. To accomplish its mission, Extension is constantly changing and adapting to meet the shifting needs and priorities of the people it serves. The ultimate goal is to reach targeted audiences and provide the information they need in a manner which they prefer.

In reaching those audiences effectively, selection of appropriate and creative teaching techniques are most important tools. In today's world, the agent cannot just sit there and wait till the door opens up and someone says, "Let's do it, this way" (Casey and Kruger, 1991). Vision and risk taking are needed attributes as we strive to meet the needs of our new and traditional audiences.

In Extension educational programming, Iddings and Apps, (1992) suggest that a wide variety of methods and resources should be made available to audiences to encourage learning and remove potential barriers for those clientele who want to learn independently. Rollins and Yoder, (1993) suggest that knowing clientele learning preferences can prove helpful in deciding how to develop programs and how to use available resources and instructional technology.

Considering the dynamics of today's society, extension educators need to try innovative ways to reach audiences that are not reached by or those that don't attend traditional Extension educational programs (Mechenich, 1993). In striving for this goal, Sunnarborg, et.al, (1988) recommends that two essential ingredients to consider would be: (1) fit the subject matter to the needs of the target group and (2) develop innovative training and delivery methods at the educational level of the target group. As we select appropriate delivery methods, we should recognize that new and innovative communication tools can enable target audiences to receive customized information at their convenience (DeYoung, 1992).

With these considerations in mind, we sought to determine if some self-directed, distance learning program delivery methods could provide information to traditional clientele who have customarily received information via face-to-face interaction with Extension personnel.

CLIENTELE PREFERENCES AND PROGRAM DELIVERY

During recent times, increasing amounts of research has been conducted to determine clientele preferences for various program delivery methods utilized by Extension. Mechenich (1993) implies that Extension educators need to experiment with innovative delivery programs and conduct research into why certain audiences don't attend or utilize traditional Extension educational programs. The following studies illustrate the variety, scope of research conducted and the implications and findings concerning program delivery methods and clientele preferences.

How people prefer to learn often depends on what they are learning. Television, radio, and newspapers are the preferred sources of educational information on energy conservation (Iams and Wilhem, 1984). Change the subject to financial (Steinfelt, 1985) or health management (Epstein, 1988) management and research shows that pamphlets, correspondence courses and recorded telephone messages become the delivery method of choice.

A successful learn-at-home program was pilot-tested in Wisconsin in 1987-1988. The program consisted of three units of audio and print lessons concerned with teaching consumers how to manage their credit (Gibson, et.al, 1992). Sixty percent of respondents indicated they had made changes in their use of consumer credit because of their participation in the program. In this study, 96% of the participants stated a strong preference for this method of delivery of information.

Some interesting research in self-study programs for small farm operators was conducted in Florida by Israel and Ingram (1991). This study used a combination of videotapes and workbooks to deliver an educational program. Their findings included; having a VCR had a strong positive affect on the likelihood of small farmers participating in a self-study educational program. Distance to county Extension office and number of Agriculture Agents didn't significantly affect the farmers' reported likelihood of participation, although higher family income decreased the likelihood of participation.

Program delivery research in North Carolina has shown that North Carolina farmers prefer the traditional and well-established methods such as: newsletters, meetings, farm visits, telephone calls, and on-farm tests (Richardson, 1989, 1993). Those surveyed predicted that they will still be making frequent use of these methods in the future. Richardson (1993) concludes, if the objective is provision of educational inputs for clientele who are interested in trying or testing new information which they have already mentally evaluated as of use to them, delivery methods such as demonstrations, tours, workshops, interactive meetings, audio cassette/fact sheet, video cassette, and other "how-to" methods are likely to be of greater value.

As the research review confirmed, audience targeting allows for the selection of appropriate delivery methods which coincide with those preferred and considered relevant by the audience. The review also confirmed that many audiences are receptive to non-traditional delivery methods if these meet their needs, schedules, and preferences. Thus, in this study, we sought to determine if growers are amenable to using self-directed, non face-to-face delivery methods, as well as their preferences, for receiving needed information relative to disease and insect scouting. Three delivery means were chosen, and these methods include (1) a fact sheet, (2) a fact sheet plus an audio cassette, and (3) NCCES's bulletin AG-400 (Scouting Tobacco).

Study Objectives

The problem addressed in this study was to identify preferences for selected individual methods and combinations of delivery methods, and knowledge gained by using these delivery systems for insect scouting procedures used in burley tobacco production by growers in Cherokee and Clay Counties. The ultimate goals of this research was to determine the feasibility of innovative delivery systems which will meet the needs of a defined target clientele. The objectives of this research were the following:

(1) To study Cherokee and Clay County burley tobacco growers' preferences regarding three different program delivery methods for receiving information about scouting burley tobacco for three specific insect problems.

(2) To identify independent variables that may help predict the level of acceptance and preferability of certain program delivery methods by the target audience.

(3) To identify the level of knowledge change with regard to scouting burley tobacco for aphids, flea beetles and bud worms using three alternative delivery methods; Extension Bulletin AG-400 only, fact sheets only, and fact sheets and audio tape combination.

Methodology

Subjects for this research were randomly selected from a list of burley tobacco growers with 10 years or less experience. The list of 97 tobacco growers was obtained from the Cherokee and Clay County's Agricultural Stabilization and Conservation Service Offices (ASCS).

The selections were made by using a random number table. All persons selected were interviewed face-to-face.

A major step in this project was to design a program delivery structure for tobacco scouting differing from the typical face-to-face contact method or the use of the available North Carolina State University developed Extension bulletin, Scouting Tobacco, AG-400. Since the stratified target audience is made up of growers with 10 years or less growing experience simple scouting fact sheets were designed to be compared to the more technical Scouting Tobacco publication now available. The fact sheets utilized larger print, short sentences and common, easy to understand words. Pictures and sketches of the insects were also used to help simplify the learning experience. An audio-tape was made to supplement the fact sheet. The audio tape was recorded by the local Extension agent so that the voice would be recognizable and familiar to the farmers. It was felt that this would allow the producers to identify more closely with the delivery method and the Extension Service. Also, as with the fact sheets, simple words and familiar phrases were used. This gave three separate delivery methods: (1) Fact sheet by itself, (2) Fact sheet plus audio tape, and (3) Extension's Publication AG-400, "Scouting Tobacco".

The questionnaire was reviewed for clarity by three Extension agents and specialists as well as pre-tested by a group of five people representative of the target audience. Feedback revealed that minimal changes were necessary in wording and style of writing to clarify some questions. Also, the number of choices in some questions were reduced and other choices were moved to a more meaningful category. In addition to determining preference levels, the questionnaire contained questions designed to obtain certain demographic information about the target audience. This demographic information included age, education level, use of other sources of information, and size of acreage of production.

To determine level of knowledge relating to insect scouting, a pre-test was administered at time of the interview. One month later, a post-test was administered to determine knowledge gain and knowledge retained. Administered as part of the post-test included the opportunity for the subject to evaluate the three delivery methods and indicate their first, second, and third preference. In addition to stating their preferences, the farmers were also asked to name any potential future uses of the fact sheet and audio tape combination.

FINDINGS

As shown in Table 1 the Fact sheet/audio tape delivery method was selected by 17 out of 20 producers as their first choice. Two of the farmers selected the fact sheet method alone as their first choice and only one preferred the Bulletin AG-400 as their first choice.

Table 1. Program Delivery Preference of Clay/Cherokee Burley Farmers N=20

Method	First Choice	Second Choice	Third Choice
AG-400 Bulletin	1	5	14
Agent Fact Sheet	2	13	5
Fact Sheet/Audiocassette	17	2	1

In a confirmation of the acceptance of the fact sheet/audiocassette as a teaching tool for insect and disease control, all twenty of the farmers indicated that they would use this combination of delivery methods again. This positive response was received even though all twenty had not used this means of receiving information previously.

Demographic Comparisons

Considering the high level of confidence expressed in the fact sheet/audiocassette means for receiving insect and disease scouting information, the various demographic factors tested produced little information in which major inferences could be drawn. However, in order to present the information gained in this study, each of the demographic factors will be briefly discussed.

Age

The three persons who preferred either the fact sheet or the bulletin were less than 30 years of age. Two of those individuals preferred the agent developed fact sheet, while the other preferred the University bulletin. Altogether, nine of the twenty were under thirty.

Education

Only three of the farmers had a formal education level higher than a high school graduate. Six of the twenty had not graduated from high school. Two of the individuals with less than a high school education preferred one of the other means of delivery. One preferred the fact sheet while the other preferred the bulletin. The only high school graduate who did not prefer the combination of methods indicated a preference for the fact sheet.

Acreage

The division of growers into groups of less than three acres and more than three acres of burley production failed to indicate any discernable differences between the two groups. However, an analysis of preferences for the second and third methods among both groups showed a strong trend toward the fact sheet. The University bulletin was placed third by 14 of the 20 growers.

Comparison of Sources of Information

Those who use five or more sources of information were no different in their preferences than were those who use five or fewer sources of information.

Knowledge Gained

The pre and post tests indicated a knowledge gain among all growers who participated in this study. As indicated in Table 2, the average gain was 27%, ranging from a high of 69% to only 6 percent. Analysis of the date indicated that generally, those persons with higher knowledge levels at the beginning gained less additional knowledge than those individuals who were less knowledgeable at the beginning.

Table 2. Comparison of Pre and Post-Test Scores of Selected Growers. N=20.

	Mean	Range	Median
Pre-test	45%	14-71	43%
Post-test	72%	50-90	70%
Gain	27%	6%-69%	27%

Variables

Some of the variables were tested for any comparisons of knowledge gained in this educational program, regardless of the preferred means of delivery. This information is presented in the following sections.

Education Level

Those individuals with less than a high school education had a knowledge gain of 33%, while the ones with a high school education or more gained 23.3 percent.

Acreage

Those with more than 3 acres gained 30.7%, while those with fewer than three acres increased 17.9 percent.

Number of Information Sources

Those using less than five information sources gained 35.6% new knowledge about insects and diseases in burley tobacco, and the farmers using more than five information sources had a gain of 21.7 percent.

SUMMARY

This study confirms that a combination of traditional Extension program delivery methods can be effectively combined with electronic technology in providing information to small farmers as well as under educated ones. The confirmation that all of the twenty study participants had a positive attitude toward using the fact sheet/audiocassette in a self-directed learning situation demonstrates the acceptance of non face-to-face means of program delivery, even with highly traditional audiences that have long been accustomed to direct contact by the Extension agent.

With an overwhelming eighty-five percent (85%) selecting the fact sheet/audiocassette system as the first choice over the more traditional bulletins and/or the fact sheet, plus 100% stating their willingness to use this delivery method again, they did express some concerns that are worthy of note. Some of the participants commented on the "less personal" format of the audio tape/fact sheet approach and a few commented on the fact that they weren't able to clarify all their questions in person. The overwhelming majority gave this style of program delivery high marks as an effective way of providing training. They particularly applauded the convenience, completeness, readability, and timeliness of this delivery means.

IMPLICATIONS

The findings of this study have implications for future decisions and directions about insect and disease scouting programming in Cooperative Extension. The stratified target audience expressed a need for information to be delivered not only by traditional means but their preference was also high for new and innovative delivery systems.

Traditional Extension program delivery has relied heavily on meetings and face-to-face teaching. Survey respondents, when given the choice between three self-directed delivery methods expressed a strong preference for the fact sheet and audio tape combination as the preferred method of delivery. Positive aspects of the fact sheet/audio tape combination mentioned most included were: ease of understanding the combination of two learning methods; the ability to learn at one's own pace; can listen to and use at anytime; and adaptability to other situations such as usage with migrant labor.

Thus, the fact sheet and audio tape delivery system as a self-directed learning method, was positively received and participants unanimously agreed (100%) to actively participate in future training using this delivery method. Therefore, to respond to the strong, expressed needs and preferences of the audience, agricultural agents need to break out of the traditional focus and paradigms and move forward to develop programs and delivery system methods to meet these needs. It takes an astute educator to read audiences and make changes to the delivery system and instructional materials to fit the unique needs of a given target audience. Changing and advancement of technology isn't the only issue. New and innovated communication tools can enable audiences to receive customized information at their convenience. But, the major issue is how Extension educators will interact with this technology. Extension's future depends on its ability to interpret trends and use technology to deliver desired programs in preferred ways.

The implications seem clear that Extension needs to free its innovative people currently in its organizational structure to take the risks to design new and innovative programs and program delivery systems. Extension needs to continue to search for these types of people in the future to compliment the many good agents in the organization, to allow Extension to be proactive now and into the future.

To keep up with the educational needs and expectations of today's diverse target audiences, Extension is (will be) called upon to use innovative teaching techniques and delivery systems.

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